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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,682	02/24/2004	Tony S. El-Kik	9A01.1-110	8386
47627 7590 06/27/2007 SMITH FROHWEIN TEMPEL GREENLEE BLAHA LLC TWO RAVINIA DRIVE SUITE 700 ATLANTA, GA 30346			EXAMINER TU, JULIA P	
			ART UNIT 2611	PAPER NUMBER
			MAIL DATE 06/27/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/785,682

Applicant(s)

EL-KIK, TONY S.

Examiner

Julia P. Tu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02/24/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02/24/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet **within the range of 50 to 150 words**. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### *Drawings*

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 73 and 75 are mentioned in paragraphs [0023] and [0024] but are not included in the drawing. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

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informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. There is a conflict between the claim invention and the specification. The specification describe the invalid data as a duration less than the clock cycle setting (i.e. 3 clock cycles); whereas, the claim invention discloses invalid data comprises data that has changed logical state for a duration greater than the clock cycle setting.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1, 4, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Anderson et al. (US 5,457,718).

(1) with regard to claim 1:

As shown in figure 1, Anderson discloses a digital filtering apparatus for use with a data signal line, comprising:

a digital delay element that receives data from a data signal line (block 20 in figure 1), the digital delay element having at least one output;

a comparator operably connected to the at least one output of the digital delay element, the comparator having an output (block 30 in figure 1); and

a final stage operably connected to the output of the digital delay element and the output of the comparator (block 40 in figure 1), wherein the comparator, upon recognizing invalid data clocking through the digital delay element, enables the final stage to filter the data and wherein the comparator upon recognizing valid data clocking through the digital delay element, enables the final stage wherein the output of the final stage changes logical state for a duration approximately equal to that of the valid data (column 3, lines 59-67).

(2) with regard to claim 4:

Anderson further discloses the final stage comprises a latch (block 40 in figure 1).

(3) with regard to claim 8:

As shown in figure 1, Anderson discloses a method for digitally filtering invalid data from a data signal line, comprising:

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delaying with a digital delay element data from the data signal line (block 20 in figure 1);

determining with a comparator valid data clocking through the digital delay element (block 30 in figure 1); and

transitioning logical data states of an output line in response to the comparator recognizing valid data, wherein the duration of the logical data state transition is approximately equal to the duration of the valid data (column 3, lines 59-67; note that when the input data aligns transitions is considered valid data).

(4) with regard to claim 9:

Anderson further teaches the output line further comprises a final stage latch connected to the comparator (block 40 in figure 1), and wherein the transitioning step further comprises enabling the final stage latch (block 50 in figure 1).

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 2, 3, 6, 7, 10, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (US 5,457,718) in view of Clements et al. (US 2005/0105507).

(1) with regard to claims 2, 3, 6 and 10:

Anderson discloses all of the subject matters in claims 1 and 8 above but is silent about the digital delay element further comprises a plurality of flip-flops connected in series, and wherein the delaying step further comprises clocking data from the data signal line through the plurality of flip-flops.

However, the digital delay element comprises a plurality of flip-flops connected in series, and wherein the delaying step comprises clocking data from the data signal line through the plurality of flip-flops is well known in the art as it is evident by Clements et al. (figure 4, page 2, paragraph [0019]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Clements into the teaching of Anderson improve the filtering process.

(2) with regard to claims 7, 12:

Clements discloses the digital delay element has a plurality of output lines, wherein the comparator has a plurality of programmable input lines connected to the plurality of output lines of the digital delay element, and wherein the bandwidth of the filter is established by the number of comparator output lines that are programmed to receive data from the digital delay element (see figures 1-4, paragraphs [0014-0016]). It would have been obvious to one of ordinary skill in the communication art at the time

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the invention was made to have a digital delay element that has a plurality of output lines in order to improve the filtering process. Therefore, it would have been obvious to combine the teaching of Clements into the teaching of Anderson and Clements so as to improve the filtering process as well as to improve the communication system.

8. Claims 6, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (US 5,457,718) in view of Clements et al. (US 2005/0105507) and Byram et al. (US 3,829,798).

Anderson and Clements disclose all of the subject matters in claims 1, 8 and 10 above but are not explicitly disclose the filtering method has a bandwidth, and wherein the filtering method further comprises the step of adjusting the bandwidth of the filtering method by increasing or decreasing the number of flip-flops in the digital delay element. However, it is well known in the art that the bandwidth of the filter depends on the digital delay elements as it is evident by Byram (column 1, lines 56-65); hence, it is obvious that in order to adjust the bandwidth of the filter, the number of flip-flops in the digital delay element has to changed, i.e. either increases or decreases. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Byram into the teaching of Anderson and Clements in order to improve the filtering process as well as to improve the communication system.



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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julia P. Tu whose telephone number is 571-270-1087. The examiner can normally be reached on 7:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

J.T.  
06/13/2007

  
CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER